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April 17, 2013

TO: Each Supervisor

FROM: Jonathan E. Fielding, M.D., M.P.H. Jonathan E Fielding
Director and Health Officer

SUBJECT: **REPORT ON MENINGOCOCCAL DISEASE**

This is to provide your Board with information about meningococcal disease in response to the recent news media reports regarding a fatal case of the disease in Los Angeles County.

Background

On April 9, 2013, the Department of Public Health (DPH) was notified of a case of meningococcal disease. DPH conducted a thorough contact investigation, which included identifying any persons who had close and/or intimate contact with the case. DPH made sure that preventive antibiotic treatment was provided to individuals who had likely close contact with the patient including household contacts, friends, and health care workers.

Additionally, DPH assessed all reported locations where the patient may have visited during the incubation period to identify any additional contacts that needed preventive antibiotic treatment. DPH was informed that the case visited a gym in the West Hollywood area on the day he felt sick. On learning of the case's visit to the gym, DPH provided a letter to gym patrons notifying them that a client associated with the gym had been diagnosed with meningococcal disease. The gym notification included instructions on if and when gym patrons should contact their medical provider. Contact information for DPH staff was also provided.

DPH is working with the Centers for Disease Control and Prevention (CDC) and the California Department of Public Health (CDPH) to characterize the specific bacterial strain of the disease obtained from this case. DPH anticipates results from its Public Health Laboratory by the end of the week, including comparing the "fingerprint" of the bacteria from Los Angeles County cases to those obtained in other jurisdictions, such as the recent New York City strain.

As of this report, there have been no new identified cases related to this case.

Meningococcal Disease

Meningococcal disease is a rare infection of the blood (bacteremia) or lining of the brain and the spinal cord (meningitis). The disease can cause brain damage, hearing loss, and even death. It is transmitted through contact with nose or throat secretions from persons with the *Neisseria meningitidis* bacterium (also called meningococcus) in the upper respiratory tract. Individuals can carry meningococcal bacteria in their nose and throat and not be sick. The bacteria can be spread by very close exposure to sneezing and coughing or direct contact with saliva or nasal mucus (i.e. through kissing, sharing drinks, cigarettes, or eating utensils). Disease symptoms may include: fever, stiff neck, altered mental status, rash, severe headache, low blood pressure, and generalized muscle pains. Meningococcal disease is treatable with antibiotics if diagnosed early. However, even with treatment the mortality rate in the United States for isolated cases is 11- 15%.

Factors that can increase risk of meningococcal disease include:

- *Age:* Infants and elderly adults are at higher risk for meningococcal disease than people in other age groups. However, people of any age are can acquire the disease.

- *Community setting:* Infectious diseases tend to spread more quickly where larger groups of people live together. For example, college students living in dormitory settings and military personnel are at increased risk for meningococcal disease.

- *Certain medical conditions:* There are certain diseases, medications, and surgical procedures that may weaken the immune system or increase risk of meningitis in other ways. These include persons who do not have a functional spleen and those with a specific immune deficiency called complement component-deficiency. Of particular note, HIV infection is not identified as a definite risk factor in CDC publications and therefore there is no CDC recommendation for routine vaccination.[1]

- *Travel:* Travelers to areas where there are current outbreaks, including the so-called "meningitis belt" in sub-Saharan Africa, may be at risk for meningococcal disease.

Definition of a Meningococcal Disease Outbreak

According to the CDC, a meningococcal disease outbreak has two criteria. 1) Three primary cases of disease must be linked within a three-month period. To date, there is no such linkage. 2) There must be an annual rate of disease greater than ten in 100,000 persons. The level of cases reported to date is not at outbreak threshold levels, either among gay men or in the general population.

Vaccination for Meningococcal Disease

The Advisory Committee on Immunization Practices (ACIP) recommends vaccination for the following groups:

- College students who live in congregate living situations such as dormitories
- Adolescents (age 11-12) with a second vaccine at 16 years of age
- Laboratory workers exposed to the meningococcal bacteria

[1] MMWR March 22, 2013/ Vol. 62/ No2./ Page 17

- Military recruits entering basic training
- Travelers to areas of the world where there are current outbreaks
- People with specific medical conditions

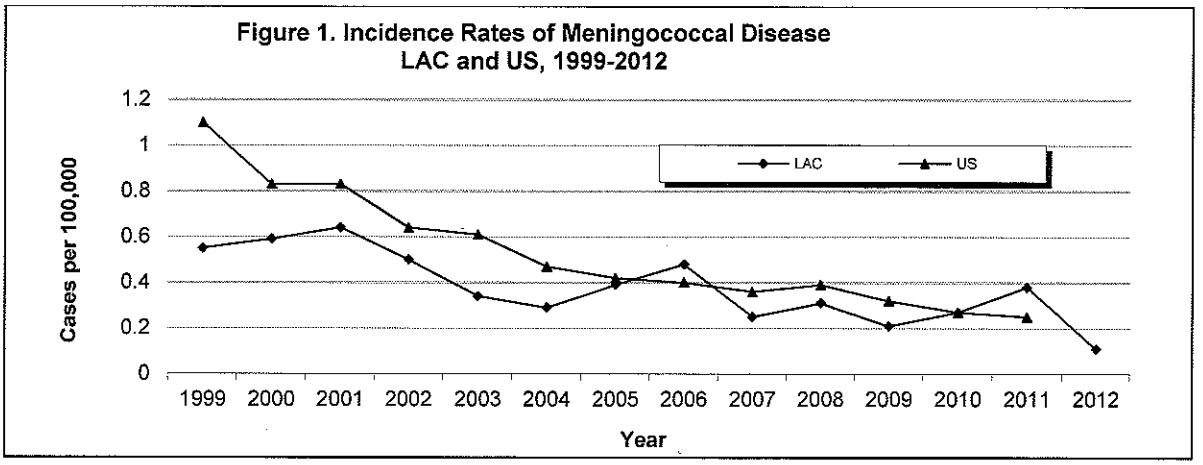
Although the vaccine is not recommended for most adults, DPH recognizes that it is important that the vaccine be available and affordable for all those who feel they are at risk. DPH is urging any individuals who are concerned that they may be at increased risk to consult with their doctor to decide whether to receive meningococcal vaccination. Currently, many health plans pay for the vaccination only if an outbreak is declared based on the CDC criteria. DPH is requesting that insurance companies accept a physician's prescription as an adequate basis for reimbursement, just as they do for many other health care services. If needed, DPH will use its partnerships with health care providers and community stakeholders to help convince health plans that allowing for reimbursement of the vaccine is a medically appropriate approach.

Individuals covered by the Ryan White Program can receive vaccine pursuant to a doctor's prescription. The Department of Health Services (DHS) is making the vaccine available for persons without health insurance or who are low income at DHS hospitals and comprehensive health centers.

Additionally, DPH is working with local health care providers to ensure that they know where to secure sufficient vaccine to meet the increased demand. DPH has been assured by vaccine manufactures that ample vaccine supplies are available.

Meningococcal Disease in Los Angeles County

From 1999 to 2012, the incidence of meningococcal disease in Los Angeles County has declined by over 70%, with overall population rates declining from 0.53 cases per 100,000 in 1999 to 0.12 cases per 100,000 in 2012. In general, meningococcal disease rates in Los Angeles County have been lower than national rates, approximately one case per 100,000 population (Figure 1). Since 1999, declines in disease incidence have occurred across all age groups and race/ethnicities. In 2012, DPH documented the lowest case count in Los Angeles County with 11 confirmed cases.



From 2007 to 2011, the average number of confirmed cases of meningococcal disease in Los Angeles County was 28, with an annual range from 24 to 37 cases. The case fatality rate varied from six to 16 % during this same time period. During most surveillance years, infants less than one-year old have had the highest disease incidence and individuals from 15 to 24 years of age have had the

highest case counts. From 2007 to 2011, African Americans had the highest disease incidence of any race/ethnicity with incidence rates ranging from 0.4 to 1.4 cases per 100,000 population. The incidence of meningococcal disease varied by Service Planning Area (SPA) during this five-year period. In 2011, SPA 3 had the lowest disease incidence of any of the eight SPAs, with two confirmed meningococcal disease cases and an incidence of 0.1 case per 100,000 population. SPA 6 had the highest meningococcal disease incidence with nine confirmed cases and an incidence of 0.8 cases per 100,000.

Case Investigations

Meningococcal disease is a reportable communicable disease. Physicians, hospitals, and clinical laboratories are required by law to immediately report any suspect cases of meningococcal disease to DPH. In addition to telephone and faxed reports by medical providers, electronic reports are received from clinical laboratories and also through the electronic disease reporting system known as Visual Confidential Morbidity Reporting system. For each suspected case of meningococcal disease, DPH obtains and reviews the case's medical records to confirm the case. A public health nurse (PHN) from DPH Community Health Services (CHS) conducts a case or surrogate interview within one day and completes a supplemental risk factor form to identify contacts and potential common exposures. Close contacts are provided with post- exposure preventive antibiotics. It is important to note that because of the vigilant and thorough case investigations conducted by DPH staff, secondary cases of meningococcal disease rarely occur.

Epidemiology Activities

The DPH Acute Communicable Disease Control (ACDC) Program monitors the epidemiology of meningococcal disease, including tracking possible clusters, preparing quarterly and annual disease reports, and ensuring that meningococcal disease isolates are delivered to the DPH Public Health Laboratory (PHL) for subtyping. ACDC has a comprehensive surveillance program which includes disease reports from clinicians, infection control practitioners, microbiology laboratory reports, coroner reports, daily syndromic surveillance reports that include acute neurologic and skin rash events, and a complete electronic disease reporting system which alerts DPH epidemiological and clinical staff to communicable diseases. Additionally, DPH Public Health Laboratory performs or arranges for subtyping and DNA "finger printing" of all meningococcal isolates when clusters with common epidemiologic links are suspected.

Additional Cases

DPH is aware of the additional following meningococcal disease cases. DPH is continuing to actively investigate all cases of meningococcal disease in Los Angeles County and working with federal and State partners as appropriate.

Homeless Population

In April 2011, DPH became aware of two cases of meningococcal disease who resided in the largest homeless shelter in downtown and that were reported within two weeks of each other. In response, the supplemental risk form was modified to ascertain additional risk factors such as jail exposure, homeless shelter residence, illicit drug use, and other possible connections with the homeless population. As a result of that investigation and additional laboratory evaluation, four cases with

connections to the homeless community and caused by an identical organism were confirmed. Through finger printing, DPH was able to exclude other cases that occurred during the same time frame from being part of the homeless case cluster. DPH administered antibiotics to close contacts of each of the cases, including staff and fellow shelter residents.

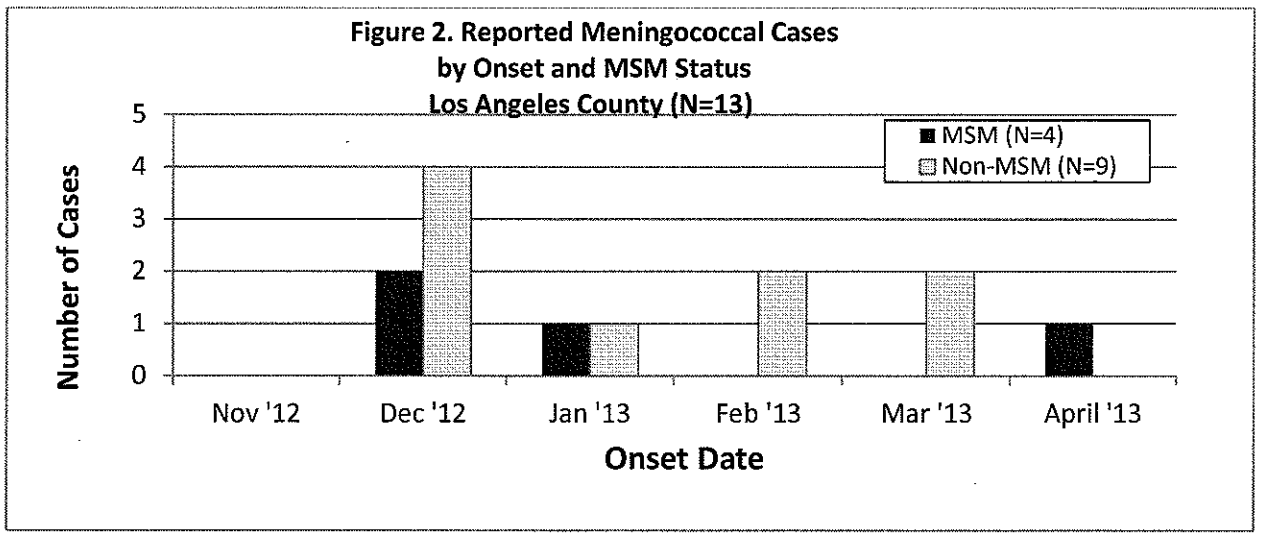
Additional actions taken by DPH included alerting and educating homeless shelter staff, medical providers for the homeless population, and first responders in the downtown area about meningococcal disease in the homeless community and the signs and symptoms and urgency of the disease.

New York City

Between 2010-2012, New York City (NYC) documented an increase in one subtype of meningococcal disease called serogroup C among men who have sex with men (MSM); this was reported in the CDC's Morbidity and Mortality Weekly Report in 2012 and 2013. In response, the NYC Department of Health and Mental Hygiene (DOHMH) made a series of recommendations for the administration of the meningococcal vaccine to selected male NYC residents who engage in sex with other men.

Men having Sex with Men

Based on the NYC incident, in November 2012, DPH began requesting public health nurses to obtain additional risk factor information regarding sexual practices (specifically for MSM), determine online dating practices, travel history to NYC, and attendance at specific bars and parties. In December 2012, two cases of meningococcal disease were documented in men who reported MSM as a risk factor. In January 2013, a third such case was confirmed, and in April 2013, a fourth case was confirmed (Figure 2). To date, two of the four cases have died. All four cases have serogroup C meningococcal disease and three of those four cases have a similar genetic composition to the cases in NYC. It is important to note that 30% of all meningococcal disease in the United States is identified as serogroup C. The case investigations in Los Angeles County did not result in any epidemiologic or behavioral linkages between these cases as they resided in different geographic areas, sought medical care at different acute care facilities, and according to case interviews, were not shown to have attended any common bars or parties.



DPH will continue to actively investigate all cases of meningococcal disease and to query pertinent additional risk factors.

In recent days, DPH has been asked about whether the cluster of these four meningococcal disease cases with MSM risk factor in a four-month period is an outbreak. Based on the aforementioned CDC definition, these cases do not constitute an outbreak, which calls for both an incidence rate approaching 10 cases per 100,000 in addition to a supporting epidemiologic association of a commonality, such as cases attending a common party or bar.

California Binational Border Area

In February 2013, DPH became aware of an increase in meningococcal disease cases in San Diego County who had a history of travel to Tijuana, Mexico. Subsequently, DPH learned that there was a concurrent increase in meningococcal disease cases living in Tijuana. DPH began specifically requesting information on travel of newly reported meningococcal disease cases or their relatives to Tijuana or San Diego. To date, meningococcal disease has been confirmed in three cases of meningococcal disease with disease onsets from December 2012 through March 26, 2013 with a recent travel connection to Tijuana. All three cases are caused by a variant of serogroup C bacteria, but PFGE fingerprinting shows they are not related to MSM cases. Two of the three cases with Tijuana travel history died.

DPH continues to participate in weekly conference calls with San Diego County, the State and our partners in Mexico to monitor this situation. Because most cases have occurred in family clusters, public health officials in Mexico and the United States must improve early identification and prophylaxis of contacts. In fact, one of the Los Angeles County cases was apparently infected by a relative who was advised to take antibiotics but declined.

Current Activities and Next Steps

At this time, consistent with both the CDC and CDPH guidelines, DPH is not recommending a vaccination campaign in response to this sporadic meningococcal disease cases in Los Angeles County. DPH will continue to closely monitor cases and conduct activities in close collaboration with CDC, CDPH, healthcare providers, and community partners. We will not hesitate to recommend a broad vaccination campaign should the pattern of additional cases reveal an outbreak.

In order to better inform the public on the disease, DPH has posted the following documents on the publichealth.lacounty.gov website: press release on meningococcal vaccine; frequently asked questions about meningococcal disease; investigation update; and information from the CDC about the meningococcal disease. DPH will continue to distribute information to the public and health care providers about the disease, including how it is contracted and prevention options.

By the end of this week, DPH anticipates getting the fingerprint results from the Public Health Laboratory of the bacteria found in the most recent case in Los Angeles County to the bacterial strain previously found in other jurisdictions.

Additionally, DPH is working with the leaders and health care providers in the gay community in Los Angeles County. On April 15, 2013, DPH provided an update at the West Hollywood City Council meeting on meningococcal disease. On April 17, 2013, DPH hosted a phone call for health

care providers in the gay community to discuss potential actions and suggestions on how to educate the MSM population on the disease. The next meeting with this group is scheduled for Friday, April 19, 2013.

If you have any questions or would like additional information, please let me know.

JEF:ch

c: Chief Executive Officer
County Counsel
Executive Officer, Board of Supervisors